

Gateway Skills 2007:

Mathematics & Science – Intensive Occupations



Key Findings

- According to the most recent figures, there were 26,104 mathematics-intensive (annual mean wage \$69,614) and 49,702 science-intensive jobs (annual mean wage \$81,834) in Missouri, which all paid much higher salaries than the state average wage of \$34,870. Workers in mathematics-intensive occupations accounted for 0.89% of all employment statewide with workers in science-intensive occupations accounting for 1.70%.
- Most mathematics-intensive jobs were in Professional and Business Services (11,254 jobs), Information (4,538 jobs), Education and Health Services (2,151 jobs), Government (3,071 jobs), and Manufacturing (2,343 jobs). There is a projected need for an additional 6,400 mathematics-intensive workers through 2014 in Missouri.
- Most science-intensive jobs were in Education and Health Services (13,421), Professional and Business Services (15,051), Manufacturing (8,649), Government (4,472), Information (3,537), and Self-Employed Workers (1,928). There is a projected need for an additional 9,200 science-intensive workers through 2014 in Missouri.
- In general, mean annual wages per job for most mathematics-intensive occupations were below the national averages. However, mean annual wages per job for many of the science-intensive occupations in Missouri were above the national average.
- Missouri institutions of higher education are producing fewer college graduates in science and mathematics-related fields than they did 20 years ago. The proportion of graduates obtaining post-secondary degrees (bachelor's, master's, or doctorate) in mathematics has been steadily decreasing. The proportion of graduates attaining a doctorate degree in life/physical science and engineering has increased over the years but the proportion of students gaining a bachelor's or master's degree in these fields is decreasing. The exception to this declining trend is in computer sciences, where the number of graduates attaining post-secondary degrees has significantly increased.
- While 41% of Missouri's 10th graders were proficient or advanced in mathematics, recent changes in testing methodology create difficulty in comparing historical levels of proficiency. Of concern is the fact that only 6% of Missouri 10th graders were proficient or advanced in science.

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Overview

At the turn of the millennium, it became evident that our nation's economy was in the process of transitioning from an asset-based to an intangible asset-based system.¹ In this new economy, copyrights, patents, branding, innovation, and knowledge are valued over more tangible assets such as stock or equipment. These intangible assets are critical in terms of making a company competitive on both a national and international scale. Many of these assets are products of industry innovation, spearheaded by human talent. Human innovation can provide industry with technical knowledge, help create new scientific discoveries and applications, and develop new ways in which to commercialize and position new products.²

“When businesses make location decisions, they are on the lookout not for iron ore or forests, rivers, or highways, but for people with ideas. The key to success in the knowledge-based economy is what economists call high human capital – what most of us would call talent.”

Florida, R. & Gates, G.

Technology and Tolerance: Diversity and High Tech Growth

As such, it has been argued that both state and national economic growth are directly tied to innovation.³ To remain competitive in a global market over the long-term, states must focus on educating their current and future workforce in science and mathematics to align worker skills with the needs of innovative businesses. A number of different economic development strategies over the past few years have addressed the need to build the innovative capacity of states by: (1) providing training and education to meet industry needs, (2) promoting research and development in local universities and in the private sector, (3) supporting local entrepreneurs by providing venture capital funds and incentives for job creation, and (4) developing rural areas by supporting innovations in agriculture and supporting small business development.⁴

This report endorses the need to provide training and education to meet the staffing requirements of innovative and high-tech industries in Missouri. High-tech industries are defined as industries that devote a high proportion of expenditures to research and development activities and employ a large amount of scientific, technical, and engineering personnel.⁵ However, this analysis takes a unique approach by focusing on high-tech occupations over industries, i.e. those that require a high degree of knowledge in mathematics and science – two skills that have, in the past, been linked to occupations with job security, advancement, and high wages.

Methods

Occupations were classified as mathematics or science intensive if the combined importance and level of mathematics or science skills needed to perform a particular job were two or more standard deviations above the mean mathematics or science skill level for all occupations. Skills refer to the developed capacities that facilitate learning and/or performance within occupations. Occupational skills data was taken from O*NET to be used in the analysis. For occupations that O*NET had divided out into several different occupations, the average of the importance (IM) for each occupation was calculated by totaling the IM scores for each of the new occupations and dividing by the number of new occupations that O*NET had created. This same process was used to create an average of the level (LV) for each occupation.

IM and LV scores were then summed and standardized. The scores were standardized based on a 13 point scale, which is the result of summing both the 5 point importance scale and the 7 point level scale. This inherently weights the level of a skill over the importance in the standardized score. This process generated a skills proficiency score that ranged from 0.0 (lowest skill proficiency) to 100.0 (highest skill proficiency).

$$\text{SKILL-PROFICIENCY}_{\text{occupation}i} = (((\text{SumIMLV}-1) / (13-1)) * 100)$$

Where:

SumIMLV = AvgIM + AvgLV

AvgIM = Average Skill Importance Score

AvgLV = Average Skill Level (Frequency of Use) Score

The data for this analysis comes from three principal sources. Information on occupational skill requirements was taken from a national database called the Occupational Information Network (O*NET), maintained by the U.S. Department of Labor. Occupational wage data for Missouri was taken from Occupational Employment Statistics (OES), maintained by the Missouri Department of Economic Development and the U.S. Department of Labor. Occupational employment data for Missouri was taken from Employment Projections, maintained by the Missouri Department of Economic Development and the U.S. Department of Labor.

Occupational Information Network (O*NET)

O*NET is a comprehensive database of worker attributes and job characteristics. The database contains information on knowledge, skill and ability requirements for 1,122 occupations. Although it is sometimes difficult to differentiate among knowledge, skill and ability in practice, they are distinct concepts in theory. Knowledge refers to information that has been acquired through formal education, training or specific experiences. Skills refer to developed capacities that facilitate learning or performance. Abilities are defined as underlying characteristics of individuals, which are related to effective or superior performance in a job.

The knowledge and skills measures are used in this analysis. It is important to remember that knowledge and skills in this study do not measure an individual worker's knowledge and skills. Instead, the knowledge and skills are measures of the average level required by the performance of certain functions in that occupation. Consequently, the score for one worker on any knowledge or skill may differ from another worker within the same occupation.

Occupational Employment Statistics (OES)

The Occupational Employment Statistics (OES) program conducts a yearly mail survey designed to produce estimates of employment and wages for specific occupations. The OES program collects data on wage and salary workers in non-farm establishments in order to produce employment and wage estimates for over 700 occupations. Data from self-employed persons are not collected and are not included in the estimates. The OES program produces these occupational estimates by geographic area and by industry. Estimates based on geographic areas are available at the national, state and metropolitan area levels. Occupational employment and wage estimates for over 400 industry classifications are also available. The Missouri Department of Economic Development conducts the OES survey for the State of Missouri. Each year more than 10,000 employers will be surveyed through random selection based on their industrial classification, size and geographic location. In addition to the statewide data, there are tabulations for each of the state's six metropolitan statistical areas and thirteen Local Workforce Investment Areas.

Occupational Employment Projections

Occupational employment projections are developed using data from Missouri's occupational employment and wage survey along with unemployment insurance information provided by the State of Missouri and the U.S. Bureau of Labor Statistics. OES and Quarterly Census of Employment and Wages (QCEW) data are the basis for the occupational data used in the projections. The data collected reflect the Standard Occupational Classification (SOC). Many occupations are not identified separately in the SOC and are included in aggregate categories. Employment may not be sufficient to warrant the development of occupational projections in every occupation in each state, or the data may be confidential. The U.S. Employment and Training Administration provides funding for the employment projections program.

Mathematics-Intensive Occupations Summary

According to 2004 estimates, there were 26,104 mathematics-intensive jobs in Missouri earning an annual mean wage of \$69,614 per job, which is much higher than the state average wage of \$34,870. The projected number of mathematics-intensive jobs for 2014 is expected to increase by more than 24% to a total of 32,533 jobs. The average level of educational attainment for individuals employed in mathematics-intensive occupations in 2004 was a bachelor's degree. In addition, workers in mathematics-intensive occupations accounted for 0.89% of all employment statewide.

Most mathematics-intensive jobs were in Professional and Business Services, Information, Government, Manufacturing, and Education and Health Services. The projected net change of mathematics-intensive occupations from 2004 to 2014 is over 6,400 jobs. Nationally, there were 1.5 million mathematics-intensive jobs.

Mathematics-Intensive Occupations - Employment by Industry in Missouri			
Industry	2004 Employment	2014 Employment	Net Change
Construction	458	540	82
Education & Health Services	2,151	2,656	505
Financial Activities	1,012	1,268	256
Government	3,071	3,422	351
Information	4,538	5,953	1,415
Manufacturing	2,343	2,505	162
Natural Resources & Mining	81	72	-9
Other Services (Except Government)	54	77	23
Professional & Business Services	11,254	14,763	3,509
Self-Employed Workers	602	651	49
Trade, Transportation, & Utilities	538	624	86
Missouri Total	26,104	32,533	6,429

Estimated annual average employment and wages for 2004. Number may not total due to rounding and survey averages.

NA: Number not calculated by the U.S. Bureau of Labor Statistics

Source: Analysis of Occupational Employment Statistics and O*NET by MERIC

In Missouri, mathematics-intensive occupations with the highest employment base were Computer Software Engineers, Applications (11,063 jobs at \$73,690 per job); Civil Engineers (5,085 jobs at \$65,430); Computer Software Engineers, Systems Software (3,536 jobs at \$72,400 per job); Electronics Engineers (1,412 jobs at \$70,110); and Surveyors (1,023 jobs at \$41,020 per job).

Occupations with the largest percentage of national mean wages were Aerospace Engineering Technicians (115.26% of national mean wages), Physicists (106.49% of national mean wages), Mathematical Science Teachers, Higher Education (97.02% of national mean wages), Civil Engineers (95.83% of national mean wages), and Engineering Teachers, Higher Education (95.82% of national mean wages).

From 2004 to 2014, mathematics-intensive occupations with the largest projected percent increases in employment are:

- Computer Software Engineers, Systems Software (1,389 jobs at 35.93% change)
- Computer Software Engineers, Applications (3,794 jobs at 31.67% change)
- Mathematical Science Teachers, Higher Education (176 jobs at 31.33% change)
- Engineering Teachers, Higher Education (90 jobs at 29.80% change)
- Agricultural Engineers (16 jobs at 14.29% change)

Mathematics-Intensive Occupations – Employment and Wages in Missouri and the United States

SOC	Occupation	Missouri						United States
		Career Grade	2004 Employment	2014 Employment	Entry Wage	Mean Wage	Expert Wage	Mean Wage
15-1031	Computer Software Engineers, Applications	A+	11,063	14,857	\$47,640	\$73,690	\$86,720	\$78,570
17-2051	Civil Engineers	B+	5,085	5,583	\$45,000	\$65,430	\$75,650	\$68,280
15-1032	Computer Software Engineers, Software	A-	3,536	4,925	\$55,180	\$72,400	\$81,010	\$83,460
17-2072	Electronics Engineers, Except Computer	A-	1,412	1,616	\$49,420	\$70,110	\$80,450	\$78,620
17-1022	Surveyors	B+	1,023	1,127	\$26,230	\$41,020	\$48,410	\$47,280
25-1022	Mathematical Science Teachers, Higher Educ.	B	953	1,129	\$31,520	\$56,360	\$68,770	\$58,090
15-2031	Operations Research Analysts	D	699	724	\$41,700	\$61,020	\$70,680	\$63,760
25-1032	Engineering Teachers, Higher Educ.	B	504	594	\$41,790	\$75,600	\$92,500	\$78,900
15-2011	Actuaries	B	484	569	ND	ND	ND	\$89,230
15-2041	Statisticians	D-	348	342	\$33,130	\$51,830	\$61,180	\$63,950
17-2061	Computer Hardware Engineers	B	216	247	\$49,980	\$73,250	\$84,890	\$85,540
17-2021	Agricultural Engineers	B-	ND	ND	ND	ND	ND	\$63,030
17-2151	Mining and Geological Engineers	D	140	136	\$40,850	\$62,420	\$73,210	\$74,610
19-2042	Geoscientists	D-	140	144	\$36,960	\$52,310	\$59,980	\$77,890
19-2043	Hydrologists	B	99	111	\$41,460	\$61,250	\$71,140	\$64,130
17-2161	Nuclear Engineers	B-	ND	ND	ND	ND	ND	\$89,320
17-3021	Aerospace Engineering Technicians	B-	ND	ND	\$42,680	\$62,160	\$71,900	\$53,930
19-2012	Physicists	D	50	51	\$61,840	\$95,300	\$112,030	\$89,490
15-2091	Mathematical Technicians	F+	ND	ND	ND	ND	ND	\$43,970
17-2171	Petroleum Engineers	D	32	31	\$39,130	\$54,940	\$62,850	\$92,840

Estimated annual average employment and wages for 2004. Projected annual average employment for 2014.

Source: Analysis of Occupational Employment Projections and Occupational Employment Statistics by MERIC.

ND: Non-disclosed data due to confidentiality restrictions from the U.S. Bureau of Labor Statistics.

Mathematics-Intensive Occupations – Missouri Percent of US Wages and Projected Employment Growth

SOC	Occupation	MO Employment 2004	MO Employment 2014	Total Growth Openings 2004-2014	MO Mean Wage	US Mean Wage	MO % of US Mean Wage
15-1031	Computer Software Engineers, Applications	11,063	14,857	3,794	\$73,690	\$78,570	93.79
17-2051	Civil Engineers	5,085	5,583	498	\$65,430	\$68,280	95.83
15-1032	Computer Software Engineers, Software	3,536	4,925	1,389	\$72,400	\$83,460	86.75
17-2072	Electronics Engineers, Except Computer	1,412	1,616	204	\$70,110	\$78,620	89.18
17-1022	Surveyors	1,023	1,127	104	\$41,020	\$47,280	86.76
25-1022	Mathematical Science Teachers, Higher Educ.	953	1,129	176	\$56,360	\$58,090	97.02
15-2031	Operations Research Analysts	699	724	25	\$61,020	\$63,760	95.70
25-1032	Engineering Teachers, Higher Educ.	504	594	90	\$75,600	\$78,900	95.82
15-2011	Actuaries	484	569	85	ND	\$89,230	0.00
15-2041	Statisticians	348	342	0	\$51,830	\$63,950	81.05
17-2061	Computer Hardware Engineers	216	247	31	\$73,250	\$85,540	85.63
17-2021	Agricultural Engineers	ND	ND	16	ND	\$63,030	0.00
17-2151	Mining and Geological Engineers	140	136	0	\$62,420	\$74,610	83.66
19-2042	Geoscientists	140	144	4	\$52,310	\$77,890	67.16
19-2043	Hydrologists	99	111	12	\$61,250	\$64,130	95.51
17-2161	Nuclear Engineers	ND	ND	5	ND	\$89,320	0.00
17-3021	Aerospace Engineering Technicians	ND	ND	6	\$62,160	\$53,930	115.26
19-2012	Physicists	50	51	1	\$95,300	\$89,490	106.49
15-2091	Mathematical Technicians	ND	ND	0	ND	\$43,970	0.00
17-2171	Petroleum Engineers	32	31	0	\$54,940	\$92,840	59.18

Estimated annual average employment and wages for 2004. Projected annual average employment for 2014.

Source: Analysis of Occupational Employment Projections and Occupational Employment Statistics by MERIC.

ND: Non-disclosed data due to confidentiality restrictions from the U.S. Bureau of Labor Statistics.

Using data from O*NET, skill proficiency scores were calculated by averaging the importance (IM) and level (LV) scores for each six-digit SOC occupation. IM and LV scores were then summed and standardized. The scores were standardized based on a 13 point scale, which is the result of summing both the 5 point importance scale and the 7 point level scale. This process generated a skills proficiency score that ranged from 0.0 (low skill proficiency) to 100.0 (high skill proficiency).

Skills refer to the developed capacities that facilitate learning and/or performance within occupations. Occupations with the highest mathematics skills proficiency were Mathematicians (score of 87.50), Mathematics Science Teachers, Higher Education (score of 86.08), Statisticians (score of 86.08), Physicists (score of 84.67), and Agricultural Engineers (score of 81.92).

“Today, with the emergence of the information age, the strength of a country is based on knowledge. National greatness will arise not from our natural resources or our factories, but from our people, people with new skills and ideas.”

**- Michael Milken,
Milken Institute**

Mathematics-Intensive Occupations – Skills Proficiency

SOC	Occupation	Reading Comprehension	Active Listening	Writing	Speaking	Mathematics	Science	Critical Thinking	Active Learning	Learning Strategies	Monitoring
15-2021	Mathematicians	62.42	44.42	54.08	44.42	87.50	36.08	61.08	72.17	68.00	38.83
15-2041	Statisticians	72.17	55.50	65.17	55.50	86.08	66.58	79.08	76.33	63.83	62.50
25-1022	Mathematical Science Teachers, Higher Educ.	75.00	59.67	65.17	66.58	86.08	41.58	66.67	68.00	72.17	52.75
19-2012	Physicists	80.50	52.75	81.83	61.08	84.67	86.08	76.33	80.50	62.42	54.17
17-2021	Agricultural Engineers	72.17	63.83	66.58	69.42	81.92	81.92	76.33	77.75	62.42	62.42
17-2051	Civil Engineers	75.00	73.17	69.75	60.58	80.83	70.67	72.33	71.42	60.25	71.67
15-2011	Actuaries	69.42	41.58	58.25	47.17	79.17	27.75	70.83	66.58	40.25	65.25
17-1022	Surveyors	72.17	54.08	72.17	51.33	79.08	72.17	63.83	68.00	62.50	56.92
17-2151	Mining and Geological Engineers	74.25	61.75	72.92	62.42	79.08	77.75	75.67	77.00	54.08	66.67
25-1032	Engineering Teachers, Higher Educ.	77.67	63.83	66.58	69.42	79.08	73.58	73.58	74.92	69.33	56.83
15-2031	Operations Research Analysts	70.75	63.83	65.17	59.67	77.75	62.50	76.33	72.17	52.75	73.58
15-2091	Mathematical Technicians	66.58	65.17	52.75	56.83	77.67	56.92	70.83	62.42	49.92	55.50
19-2043	Hydrologists	66.58	36.08	72.17	41.58	77.67	76.33	74.92	72.17	37.50	43.00
17-2161	Nuclear Engineers	73.33	58.33	70.00	60.00	76.67	81.67	75.00	73.33	51.67	65.00
17-2171	Petroleum Engineers	66.67	58.33	70.00	61.67	76.67	68.33	66.67	58.33	38.33	55.00
15-1031	Computer Software Engineers, Applications	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
15-1032	Computer Software Engineers, Software	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
17-2061	Computer Hardware Engineers	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
19-2042	Geoscientists	68.00	43.00	69.42	49.92	76.33	72.17	69.42	69.42	31.83	44.42
17-2072	Electronics Engineers, Except Computer	73.33	53.33	68.33	56.67	75.00	68.33	66.67	58.33	41.67	45.00
17-3021	Aerospace Engineering Technicians	58.33	35.00	43.33	31.67	75.00	80.00	55.00	43.33	28.33	38.33

Skills proficiency reported on a 0.0 (low) to 100.0 (high) scale.

Source: Analysis of O*NET by MERIC

In the Fall of 2005, a total of 310 post secondary degrees in mathematics were conferred in Missouri, of which 78.3% were bachelor's degrees, 16.5% were master's degrees, and 4.8% were doctoral degrees. The number of bachelor's degrees in mathematics has increased since the Fall of 1981, while mathematics degrees as a percent of all bachelors degrees has decreased over the same time period. This indicates that proportionately fewer graduates are obtaining bachelors degrees in mathematics in Missouri.

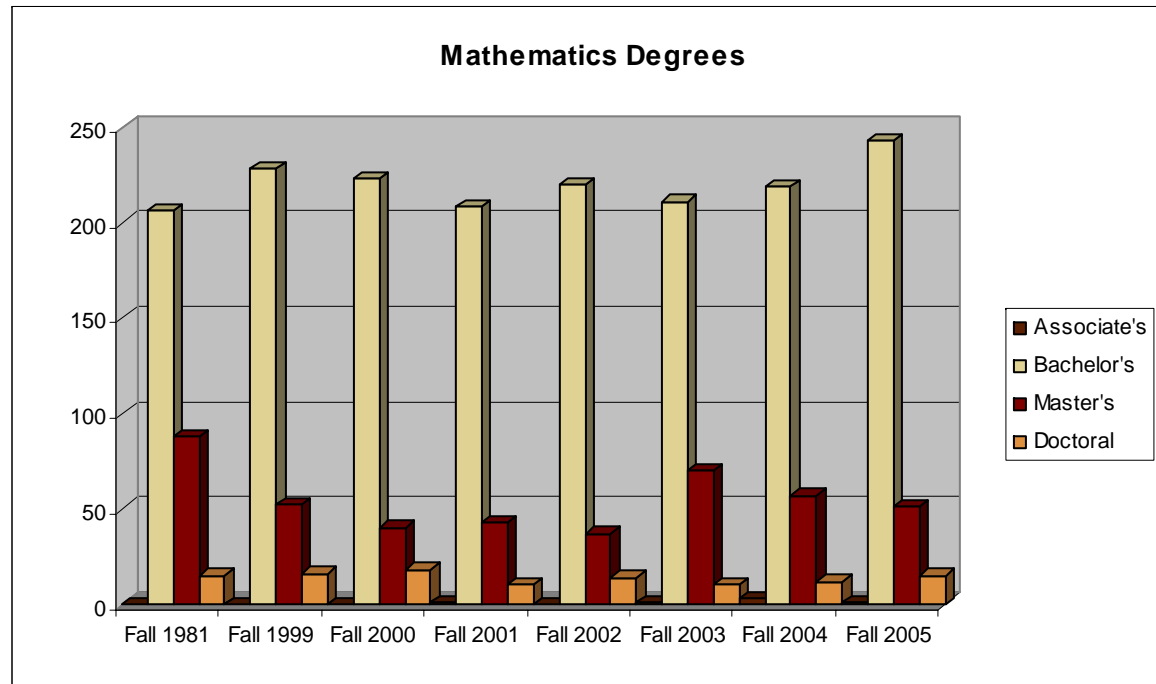
Since the Fall of 1981, the number of master's degrees in mathematics has significantly decreased, while the number of doctoral degrees in mathematics has remained flat. In addition, the number of mathematics doctoral degrees as a percentage of all doctoral degrees has significantly decreased during the past 24 years. These numbers are a strong indicator that Missouri has produced far fewer graduates with advanced degrees in mathematics than in the past.

Mathematics Degrees Conferred by Higher Education Institutions in Missouri

Degree	Fall 1981	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Associate's - Number	0	0	0	1	0	1	3	1
Associate's - % of All Degrees	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	0.03%	0.01%
Bachelor's - Number	206	228	223	208	220	211	219	243
Bachelor's - % of All Degrees	0.97%	0.82%	0.78%	0.73%	0.72%	0.67%	0.69%	0.75%
Master's - Number	88	52	40	43	37	70	57	51
Master's - % of All Degrees	1.20%	0.43%	0.32%	0.33%	0.28%	0.47%	0.37%	0.31%
Doctoral - Number	15	16	18	10	14	10	12	15
Doctoral - % of All Degrees	2.73%	2.37%	2.48%	1.32%	2.03%	1.25%	1.45%	1.70%

Includes public and private higher education institutions.

Source: Analysis of MO Department of Higher Education data by MERIC



In the Fall of 2005, a total of 7,919 post secondary degrees in education were conferred in Missouri, of which 41.5% were bachelor's degrees, 55.4% were master's degrees, and 2.2% were doctoral degrees. The number of bachelor's degrees in education has slightly increased since the Fall of 1981, but the number of education degrees as a percentage of all bachelor's degrees has decreased significantly during that time period. This indicates that proportionally fewer graduates are obtaining bachelor's degrees in education in Missouri.

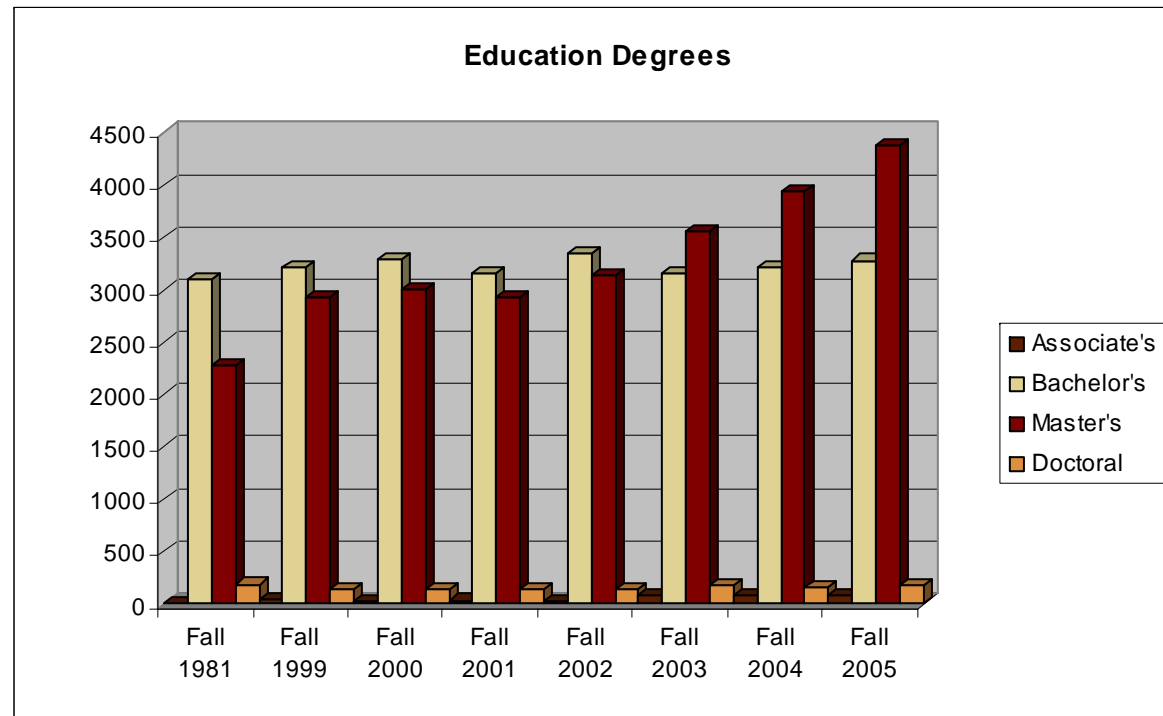
Since the Fall of 1981, the number of master's degrees in education has significantly increased, although the number of education degrees as a percentage of all master's degrees has decreased. In addition, the number and percent of doctoral degrees in education has declined since Fall of 1981. This indicates that, while Missouri is producing more graduates with advanced degrees in education over time, the state is not keeping up with the rate of advanced degrees overall.

Education Degrees Conferred by Higher Education Institutions in Missouri

Degree	Fall 1981	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Associate's - Number	0	37	28	32	25	75	74	77
Associate's - % of All Degrees	0.00%	0.47%	0.35%	0.39%	0.30%	0.82%	0.77%	0.76%
Bachelor's - Number	3,101	3,224	3,297	3,162	3,343	3,159	3,211	3,283
Bachelor's - % of All Degrees	14.67%	11.64%	11.51%	11.03%	11.00%	10.06%	10.08%	10.10%
Master's - Number	2,283	2,924	3,008	2,935	3,135	3,558	3,951	4,384
Master's - % of All Degrees	31.23%	24.11%	24.08%	22.78%	23.38%	23.79%	25.36%	26.65%
Doctoral - Number	185	137	134	145	137	176	155	175
Doctoral - % of All Degrees	33.70%	20.27%	18.46%	19.15%	19.83%	22.03%	18.74%	19.80%

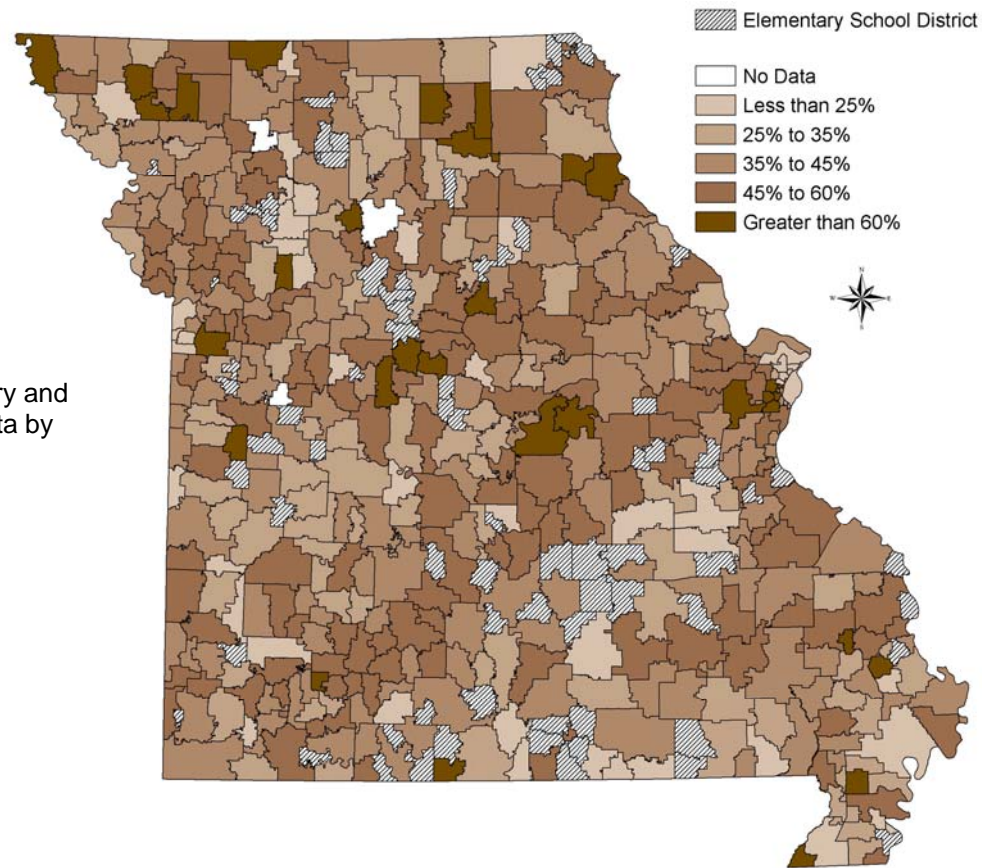
Includes public and private higher education institutions.

Source: Analysis of MO Department of Higher Education data by MERIC.



In 2006, 41% of Missouri's 10th graders were proficient or advanced in mathematics. Of note is the fact that recent changes to the methodology of the math section of the MAP exam have taken away the ability to make comparisons with historical math MAP scores over time.

**Mathematics Missouri Assessment Program
Percent of 10th Grade Students Scoring Proficient or Advanced, 2006**



Source: Analysis of MO
Department of Elementary and
Secondary Education data by
MERIC

Science-Intensive Occupations Summary

According to 2004 estimates, there were 49,702 science-intensive jobs in Missouri earning an annual mean wage of \$81,834 per job, which is much higher than the state average wage of \$34,870. The projected number of science-intensive jobs for 2014 is expected to increase by more than 18% to a total of 58,934 jobs. The average level of educational attainment for individuals employed in science-intensive occupations in 2004 was a bachelor's degree or higher, plus work experience. In addition, workers in science-intensive occupations accounted for 1.70% of all employment statewide.

Most science-intensive jobs were in Professional and Business Services, Education and Health Services, Manufacturing, Government, Information, and Self-Employed Workers. The projected net change of science-intensive occupations from 2004 to 2014 is over 9,200 jobs. Nationally, there were 2.5 million science-intensive jobs.

Science-Intensive Occupations - Employment by Industry in Missouri			
Industry	2004 Employment	2014 Employment	Net Change
Construction	859	1,051	192
Education & Health Services	13,421	16,297	2,876
Financial Activities	582	784	202
Government	4,472	4,966	494
Information	3,537	4,807	1,270
Manufacturing	8,649	8,481	-168
Natural Resources & Mining	95	89	-6
Other Services (Except Government)	91	117	26
Professional & Business Services	15,051	19,215	4,164
Self-Employed Workers	1,928	1,953	25
Trade, Transportation, & Utilities	964	1,128	164
Missouri Total	49,706	58,939	9,233

Estimated annual average employment and wages for 2004. Number may not total due to rounding and survey averages.

NA: Number not calculated by the U.S. Bureau of Labor Statistics

Source: Analysis of Occupational Employment Statistics and O*NET by MERIC

In Missouri, science-intensive occupations with the highest employment base were Computer Software Engineers, Applications (11,063 jobs at \$73,690 per job); Civil Engineers (5,085 jobs at \$65,430); Computer Software Engineers, System Software (3,536 jobs at \$72,400); Mechanical Engineers (3,300 jobs at \$63,310 per job); and Health Specialties Teachers, Higher Education (3,233 jobs at \$85,650 per job).

Occupations with the largest percentage of national mean wages were Biochemists and Biophysicists (129.1% of national mean wages), Aerospace Engineering (118.4% of national mean wages), Optometrists (109.3% of national mean wages), Physicists (109.0% of national mean wages), and Veterinarians (108.3% of national mean wages).

From 2004 to 2014, science-intensive occupations with the largest projected percent increases in employment are:

- Computer Software Engineers, System Software (1,389 jobs at 39.28% change)
- Forensic Science Technicians (86 jobs at 34.68% change)
- Computer Software Engineers, Applications (3,794 jobs at 34.29% change)
- Medical Scientists, Except Epidemiologists (604 jobs at 30.26% change)
- Surgeons (233 jobs at 21.44% change)

Science-Intensive Occupations – Employment and Wages in Missouri and the United States

SOC	Occupation	Missouri						United States
		Career Grade	Employment 2004	Employment 2014	Entry Wage	Mean Wage	Expert Wage 2004	Mean Wage 2004
15-1031	Computer software engineers, applications	A+	11,063	14,857	\$47,640	\$73,690	\$86,720	\$74,980
17-2051	Civil engineers	B+	5,085	5,583	\$45,000	\$65,430	\$75,650	\$64,230
15-1032	Computer software engineers, systems software	A-	3,536	4,925	\$55,180	\$72,400	\$81,010	\$79,740
17-2141	Mechanical engineers	A-	3,300	3,685	\$45,320	\$63,310	\$72,300	\$66,320
17-2011	Aerospace engineers	C	ND	ND	ND	ND	ND	\$79,100
25-1071	Health Specialties Teachers, Higher Educ.	A-	3,233	3,829	\$45,270	\$85,650	\$105,850	\$82,420
29-1062	Family and General Practitioners	A-	3,232	3,778	\$76,170	\$143,200	\$176,720	\$137,980
19-2031	Chemists	B-	2,323	2,417	\$35,970	\$57,480	\$68,240	\$56,060
19-1042	Medical scientists, except epidemiologists	A-	1,996	2,600	\$34,410	\$62,940	\$77,200	\$61,320
29-1131	Veterinarians	B+	1,190	1,299	\$43,390	\$72,090	\$86,440	\$66,590
29-1067	Surgeons	B	1,087	1,320	\$174,140	\$190,420	\$198,560	\$181,850
17-1022	Surveyors	B+	1,023	1,127	\$26,230	\$41,020	\$48,410	\$42,980
29-1063	Internists, General	B	972	1,167	\$90,950	\$158,870	\$192,830	\$156,790
29-1065	Pediatricians, General	B	946	1,077	\$70,120	\$145,410	\$183,060	\$140,000
17-2041	Chemical engineers	B	793	932	\$55,070	\$81,840	\$95,220	\$76,770
25-1042	Biological Science Teachers, Higher Educ.	B	730	865	\$35,340	\$59,310	\$71,290	\$77,920
29-1041	Optometrists	B-	594	663	\$55,980	\$96,600	\$116,910	\$88,410
25-1032	Engineering Teachers, Higher Educ.	B	504	594	\$41,790	\$75,600	\$92,500	\$78,900
29-1066	Psychiatrists	B	455	530	\$104,560	\$147,570	\$169,080	\$151,380
19-1023	Zoologists and wildlife biologists	C	396	418	\$33,520	\$45,090	\$50,870	\$50,330

Science-Intensive Occupations – Employment and Wages in Missouri and the United States (cont.)

SOC	Occupation	Missouri						United States
		Career Grade	Employment 2004	Employment 2014	Entry Wage	Mean Wage	Expert Wage 2004	Mean Wage 2004
29-1064	Obstetricians and Gynecologists	B	375	447	\$136,350	\$176,900	\$197,170	\$174,490
11-9121	Natural sciences managers	D	374	387	\$53,050	\$80,890	\$94,800	\$88,660
19-1012	Food scientists and technologists	B	346	387	\$29,450	\$51,490	\$62,510	\$50,840
25-1052	Chemistry Teachers, Higher Educ.	B	332	394	\$36,450	\$58,920	\$70,150	\$64,880
19-1013	Soil and plant Scientists	C	306	326	\$38,060	\$48,160	\$53,210	\$51,200
19-1022	Microbiologists	B	267	299	\$35,120	\$57,040	\$68,000	\$54,840
19-4092	Forensic science technicians	B	248	334	\$31,100	\$42,190	\$47,740	\$44,010
25-1054	Physics Teachers, Higher Educ.	B	226	268	\$37,950	\$66,110	\$80,190	\$70,490
17-2061	Computer hardware engineers	B	216	247	\$49,980	\$73,250	\$84,890	\$81,150
19-1041	Epidemiologists	B	201	227	\$31,710	\$45,420	\$52,270	\$54,800
25-1041	Agricultural Sciences Teachers, Higher Educ.	B	167	189	\$42,260	\$65,830	\$77,620	\$72,800
17-2021	Agricultural engineers	B-	ND	ND	ND	ND	ND	\$56,520
17-2151	Mining and geological engineers	D-	140	136	\$40,850	\$62,420	\$73,210	\$64,690
19-2042	Geoscientists	D	140	144	\$36,960	\$52,310	\$59,980	\$68,730
19-2021	Atmospheric and space scientists	D	133	132	\$47,580	\$71,900	\$84,060	\$70,100
19-2043	Hydrologists	B	99	111	\$41,460	\$61,250	\$71,140	\$61,510
17-2161	Nuclear engineers	B-	ND	ND	ND	ND	ND	\$84,880
17-3021	Aerospace engineering	B-	ND	ND	\$42,680	\$62,160	\$71,900	\$52,500
19-2012	Physicists	D	50	51	\$61,840	\$95,300	\$112,030	\$87,450
25-1043	Conservation Science Teachers, Higher Educ.	B	ND	ND	ND	ND	ND	\$66,780
19-1021	Biochemists and Biophysicists	B	27	31	\$63,070	\$88,990	\$101,960	\$68,950
19-2032	Materials scientists	B-	21	23	\$44,260	\$71,430	\$85,010	\$72,390

Estimated annual average employment and wages for 2004. Projected annual average employment for 2014.

Entry wages represent the 25th percentile and expert wages represent the 75th percentile.

Source: Analysis of Occupational Employment Projections and Occupational Employment Statistics by MERIC.

ND: Non-disclosed data due to confidentiality restrictions from the U.S. Bureau of Labor Statistics.

Science-Intensive Occupations – Missouri Percent of US Wages and Projected Employment Growth

SOC	Occupation	MO Employment 2004	MO Employment 2014	Total Growth Openings 2004-2014	MO Mean Wage 2004	US Mean Wage 2004	MO % of US Mean Wage
15-1031	Computer software engineers, applications	11,063	14,857	3,794	\$73,690	\$74,980	98.28
17-2051	Civil engineers	5,085	5,583	498	\$65,430	\$64,230	101.87
15-1032	Computer software engineers, systems software	3,536	4,925	1,389	\$72,400	\$79,740	90.80
17-2141	Mechanical engineers	3,300	3,685	385	\$63,310	\$66,320	95.46
17-2011	Aerospace engineers	ND	ND	0	ND	\$79,100	0.00
25-1071	Health Specialties Teachers, Higher Educ.	3,233	3,829	596	\$85,650	\$82,420	103.92
29-1062	Family and General Practitioners	3,232	3,778	546	\$143,200	\$137,980	103.78
19-2031	Chemists	2,323	2,417	94	\$57,480	\$56,060	102.53
19-1042	Medical scientists, except epidemiologists	1,996	2,600	604	\$62,940	\$61,320	102.64
29-1131	Veterinarians	1,190	1,299	109	\$72,090	\$66,590	108.26
29-1067	Surgeons	1,087	1,320	233	\$190,420	\$181,850	104.71
17-1022	Surveyors	1,023	1,127	104	\$41,020	\$42,980	95.44
29-1063	Internists, General	972	1,167	195	\$158,870	\$156,790	101.33
29-1065	Pediatricians, General	946	1,077	131	\$145,410	\$140,000	103.86
17-2041	Chemical engineers	793	932	139	\$81,840	\$76,770	106.60
25-1042	Biological Science Teachers, Higher Educ.	730	865	135	\$59,310	\$77,920	76.12
29-1041	Optometrists	594	663	69	\$96,600	\$88,410	109.26
25-1032	Engineering Teachers, Higher Educ.	504	594	90	\$75,600	\$78,900	95.82
29-1066	Psychiatrists	455	530	75	\$147,570	\$151,380	97.48
19-1023	Zoologists and wildlife biologists	396	418	22	\$45,090	\$50,330	89.59

Science-Intensive Occupations – Missouri Percent of US Wages and Projected Employment Growth (cont.)

SOC	Occupation	MO Employment 2004	MO Employment 2014	Total Growth Openings 2004-2014	MO Mean Wage 2004	US Mean Wage 2004	MO % of US Mean Wage
29-1064	Obstetricians and Gynecologists	375	447	72	\$176,900	\$174,490	101.38
11-9121	Natural sciences managers	374	387	13	\$80,890	\$88,660	91.24
19-1012	Food scientists and technologists	346	387	41	\$51,490	\$50,840	101.28
25-1052	Chemistry Teachers, Higher Educ.	332	394	62	\$58,920	\$64,880	90.81
19-1013	Soil and plant Scientists	306	326	20	\$48,160	\$51,200	94.06
19-1022	Microbiologists	267	299	32	\$57,040	\$54,840	104.01
19-4092	Forensic science technicians	248	334	86	\$42,190	\$44,010	95.86
25-1054	Physics Teachers, Higher Educ.	226	268	42	\$66,110	\$70,490	93.79
17-2061	Computer hardware engineers	216	247	31	\$73,250	\$81,150	90.26
19-1041	Epidemiologists	201	227	26	\$45,420	\$54,800	82.88
25-1041	Agricultural Sciences Teachers, Higher Educ.	167	189	22	\$65,830	\$72,800	90.43
17-2021	Agricultural engineers	ND	ND	16	ND	\$56,520	0.00
17-2151	Mining and geological engineers	140	136	0	\$62,420	\$64,690	96.49
19-2042	Geoscientists	140	144	4	\$52,310	\$68,730	76.11
19-2021	Atmospheric and space scientists	133	132	0	\$71,900	\$70,100	102.57
19-2043	Hydrologists	99	111	12	\$61,250	\$61,510	99.58
17-2161	Nuclear engineers	ND	ND	5	ND	\$84,880	0.00
17-3021	Aerospace engineering	ND	ND	6	\$62,160	\$52,500	118.40
19-2012	Physicists	50	51	1	\$95,300	\$87,450	108.98
25-1043	Conservation Science Teachers, Higher Educ.	ND	ND	8	ND	\$66,780	0.00
19-1021	Biochemists and biophysicists	27	31	4	\$88,990	\$68,950	129.06
19-2032	Materials scientists	21	23	2	\$71,430	\$72,390	98.67

Estimated annual average employment and wages for 2004. Projected annual average employment for 2014.

Source: Analysis of Occupational Employment Projections and Occupational Employment Statistics by MERIC.

ND: Non-disclosed data due to confidentiality restrictions from the U.S. Bureau of Labor Statistics.

Using data from O*NET, skill proficiency scores were calculated by averaging the importance (IM) and level (LV) scores for each six-digit SOC occupation. IM and LV scores were then summed and standardized. The scores were standardized based on a 13 point scale, which is the result of summing both the 5 point importance scale and the 7 point level scale. This process generated a skills proficiency score that ranged from 0.0 (low skill proficiency) to 100.0 (high skill proficiency).

Skills refer to the developed capacities that facilitate learning and/or performance within occupations. Occupations with the highest science skills proficiency were Physicists (score of 86.08), Chemical Engineers (score of 86.08), Biochemists and Biophysicists (score of 84.17), Agricultural Engineers (score of 81.92), and Nuclear Engineers (score of 81.67).

Science-Intensive Occupations – Skills Proficiency

SOC	Occupation	Reading Comprehension	Active Listening	Writing	Speaking	Mathematics	Science	Critical Thinking	Active Learning	Learning Strategies	Monitoring
19-2012	Physicists	80.50	52.75	81.83	61.08	84.67	86.08	76.33	80.50	62.42	54.17
17-2041	Chemical Engineers	79.08	48.58	62.50	63.83	70.83	86.08	76.33	79.08	38.83	68.00
19-1021	Biochemists and Biophysicists	75.00	31.67	68.33	32.50	67.50	84.17	64.17	65.83	34.17	44.17
17-2021	Agricultural Engineers	72.17	63.83	66.58	69.42	81.92	81.92	76.33	77.75	62.42	62.42
17-2161	Nuclear Engineers	73.33	58.33	70.00	60.00	76.67	81.67	75.00	73.33	51.67	65.00
25-1071	Health Specialties Teachers, Higher Educ.	83.25	68.00	79.08	69.42	51.33	80.50	70.75	70.75	62.42	63.83
17-3021	Aerospace Engineering Technicians	58.33	35.00	43.33	31.67	75.00	80.00	55.00	43.33	28.33	38.33
19-1022	Microbiologists	73.33	31.67	73.33	28.33	53.33	80.00	53.33	55.00	36.67	40.00
29-1131	Veterinarians	81.92	68.00	65.25	70.83	56.92	79.17	77.75	77.67	69.33	70.75
19-1041	Epidemiologists	81.83	63.83	77.75	70.75	72.17	79.08	77.75	86.08	72.17	62.50
19-1042	Medical Scientists, Except Epidemiologists	81.83	63.83	77.75	70.75	72.17	79.08	77.75	86.08	72.17	62.50
25-1054	Physics Teachers, Higher Educ.	83.33	66.58	81.92	74.92	72.17	79.08	74.92	73.58	74.92	62.42
19-2032	Materials Scientists	65.25	40.25	70.83	52.67	63.83	79.08	48.50	65.25	41.67	38.83
17-2151	Mining and Geological Engineers	74.25	61.75	72.92	62.42	79.08	77.75	75.67	77.00	54.08	66.67
19-1013	Soil and Plant Scientists	68.75	41.63	65.21	55.54	55.46	76.38	68.00	62.46	31.21	39.54
19-2043	Hydrologists	66.58	36.08	72.17	41.58	77.67	76.33	74.92	72.17	37.50	43.00
19-2021	Atmospheric and Space Scientists	72.17	52.67	62.42	70.83	63.83	76.33	73.50	73.58	59.67	56.92
19-1011	Animal Scientists	70.75	37.42	59.67	41.67	61.08	76.33	70.75	72.17	41.58	54.17
19-1012	Food Scientists and Technologists	62.42	51.33	49.92	44.42	56.83	76.33	61.08	68.00	31.92	40.17
19-1023	Zoologists and Wildlife Biologists	76.00	71.50	76.17	62.50	59.75	75.58	67.75	69.67	59.67	64.75

Science-Intensive Occupations – Skills Proficiency (cont.)

SOC	Occupation	Reading Comprehension	Active Listening	Writing	Speaking	Mathematics	Science	Critical Thinking	Active Learning	Learning Strategies	Monitoring
19-2031	Chemists	75.42	67.75	68.25	67.08	66.00	75.25	67.92	69.83	58.92	66.33
25-1052	Chemistry Teachers, Higher Educ.	81.92	65.25	81.92	76.33	72.17	74.92	72.17	75.00	76.33	63.83
19-4092	Forensic Science Technicians	71.83	65.83	63.25	74.42	55.83	73.83	68.00	68.83	59.67	64.92
25-1032	Engineering Teachers, Higher Educ.	77.67	63.83	66.58	69.42	79.08	73.58	73.58	74.92	69.33	56.83
29-1062	Family and General Practitioners	81.67	66.67	63.33	66.67	63.33	73.33	66.67	70.00	50.00	63.33
29-1063	Internists, General	81.67	66.67	63.33	66.67	63.33	73.33	66.67	70.00	50.00	63.33
29-1064	Obstetricians and Gynecologists	81.67	66.67	63.33	66.67	63.33	73.33	66.67	70.00	50.00	63.33
29-1065	Pediatricians, General	81.67	66.67	63.33	66.67	63.33	73.33	66.67	70.00	50.00	63.33
17-2011	Aerospace Engineers	78.42	74.75	74.42	72.83	64.00	73.17	82.08	77.33	59.17	73.92
17-2141	Mechanical Engineers	73.42	68.58	66.25	64.75	74.83	73.08	70.58	66.25	42.00	65.75
17-1022	Surveyors	72.17	54.08	72.17	51.33	79.08	72.17	63.83	68.00	62.50	56.92
15-1031	Computer Software Engineers, Applications	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
15-1032	Computer Software Engineers, Software	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
17-2061	Computer Hardware Engineers	66.58	61.08	52.75	63.83	76.33	72.17	65.25	74.92	47.17	44.33
19-2042	Geoscientists	68.00	43.00	69.42	49.92	76.33	72.17	69.42	69.42	31.83	44.42
25-1041	Agricultural Sciences Teachers, Higher Educ.	79.08	62.42	70.75	70.83	63.83	72.17	70.75	72.17	70.83	59.67
25-1042	Biological Science Teachers, Higher Educ.	79.08	62.42	70.75	70.83	63.83	72.17	70.75	72.17	70.83	59.67
25-1043	Conservation Science Teachers, Higher Educ.	79.08	62.42	70.75	70.83	63.83	72.17	70.75	72.17	70.83	59.67
11-9121	Natural Sciences Managers	77.67	62.42	68.00	69.42	61.00	72.17	73.58	70.75	45.75	68.00
29-1066	Psychiatrists	78.75	88.67	70.50	74.92	27.25	71.83	85.00	87.58	74.75	76.67
29-1067	Surgeons	78.33	65.00	63.33	60.00	50.00	71.67	71.67	61.67	40.00	61.67
17-2051	Civil Engineers	75.00	73.17	69.75	60.58	80.83	70.67	72.33	71.42	60.25	71.67
29-1041	Optometrists	80.58	81.17	58.50	67.25	62.83	70.42	76.58	71.92	62.17	64.08

Skills proficiency reported on a 0.0 (low) to 100.0 (high) scale.

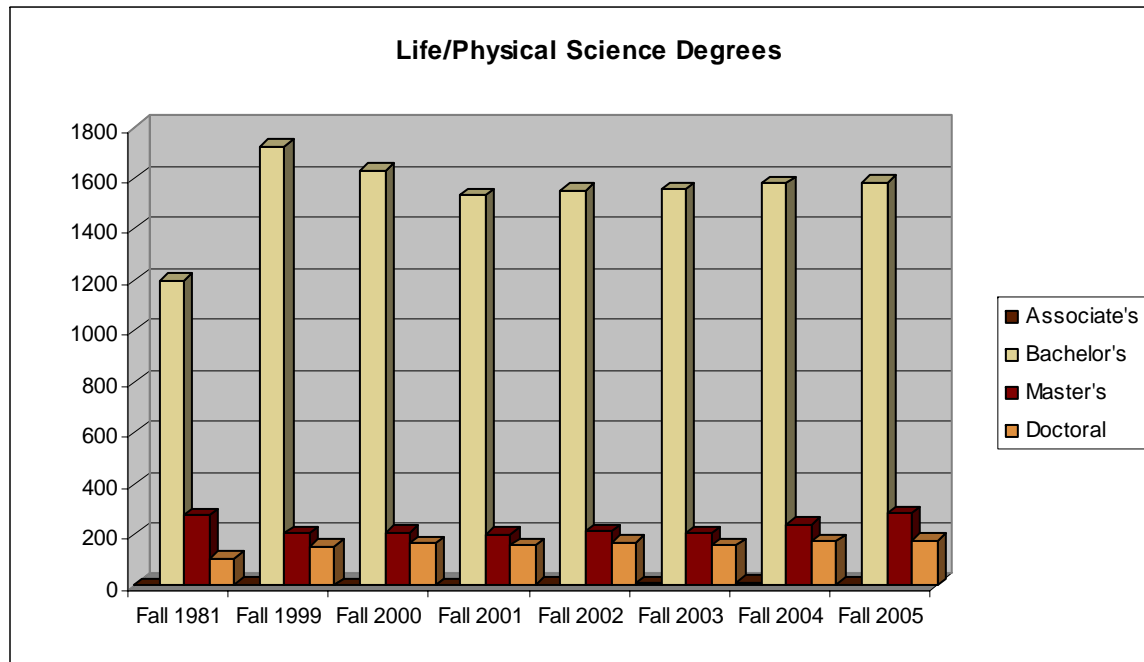
Source: Analysis of O*NET by MERIC

In the Fall of 2005, a total of 2,047 post secondary degrees in life/physical science were conferred in Missouri, of which 77.4% were bachelor's degrees, 13.8% were master's degrees, and 8.7% were doctoral degrees. Although the number of bachelor's degrees in life/physical science has increased since the Fall of 1981, life/physical science bachelor's degrees as a percent of all bachelors degrees has decreased over the same time period. This indicates that proportionately fewer graduates are obtaining bachelors degrees in life/physical science in Missouri.

Since the Fall of 1981, the number of master's degrees in life/physical science has increased but has decreased as a percentage of all master's degrees. The number of doctoral degrees in life/physical science has increased since the Fall of 1981, and has slightly increased as a percentage of all doctoral degrees.

Life/Physical Science Degrees Conferred by Higher Education Institutions in Missouri

Degree	Fall 1981	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Associate's - Number	0	3	2	1	3	9	12	3
Associate's - % of All Degrees	0.00%	0.04%	0.02%	0.01%	0.04%	0.10%	0.12%	0.02%
Bachelor's - Number	1,199	1,726	1,632	1,532	1,552	1,555	1,578	1,584
Bachelor's - % of All Degrees	5.67%	6.23%	5.70%	5.35%	5.11%	4.95%	4.95%	4.87%
Master's - Number	274	202	208	200	210	204	240	283
Master's - % of All Degrees	3.75%	1.67%	1.66%	1.55%	1.57%	1.36%	1.54%	1.72%
Doctoral - Number	106	152	166	159	169	156	172	177
Doctoral - % of All Degrees	19.31%	22.49%	22.87%	21.00%	24.46%	19.52%	20.80%	20.02%



Includes public and private higher education institutions.

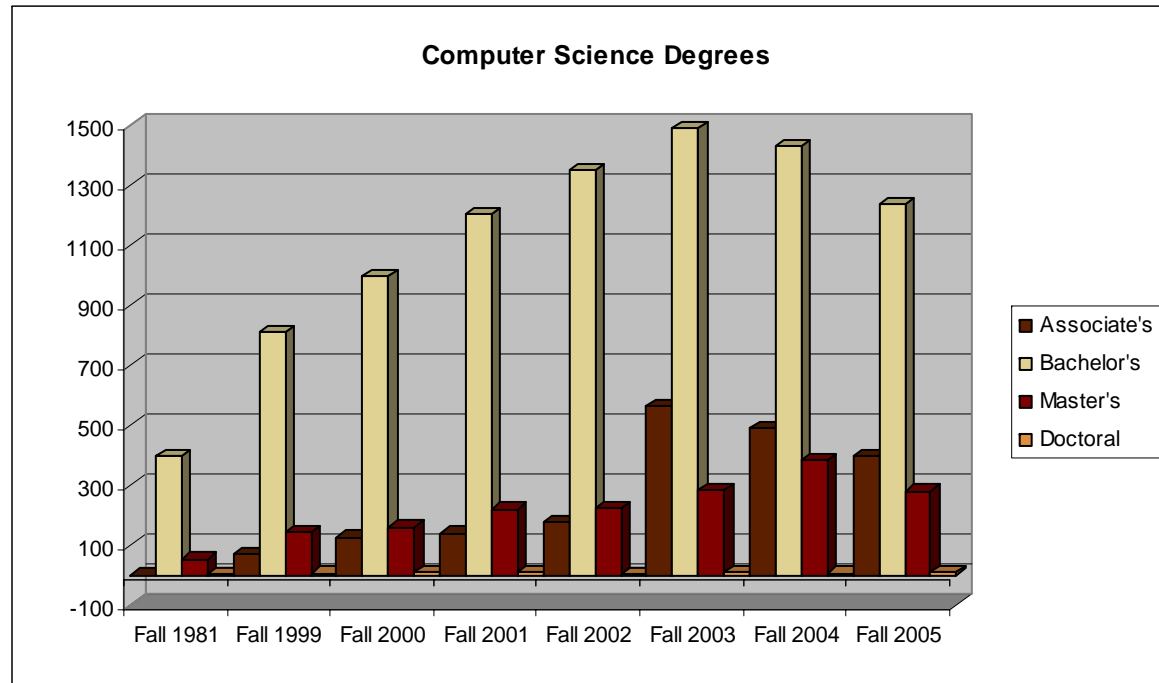
Source: Analysis of MO Department of Higher Education data by MERIC

In the Fall of 2005, a total of 1,926 post secondary degrees in computer science were conferred in Missouri, of which 64.3% were bachelor's degrees, 14.5% were master's degrees, and 0.6% were doctoral degrees. The number of bachelor's degrees in computer science has significantly increased since the Fall of 1981, and the number of computer science degrees as a percentage of all bachelor's degrees has also increased significantly during that time period. This indicates that proportionally more graduates are obtaining bachelor's degrees in computer science in Missouri.

Since the Fall of 1981, the number of master's degrees in computer science has significantly increased, and the number of computer science degrees as a percentage of all master's degrees has likewise increased. In addition, the number and percent of doctoral degrees in computer science has increased since Fall of 1981. This indicates that Missouri is producing more graduates with advanced degrees in computer science.

Computer Science Degrees Conferred by Higher Education Institutions in Missouri

Degree	Fall 1981	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Associate's - Number	0	69	126	139	176	561	491	396
Associate's - % of All Degrees	0.00%	0.87%	1.57%	1.69%	2.08%	6.17%	5.11%	3.92%
Bachelor's - Number	396	809	998	1,203	1,349	1,491	1,433	1,239
Bachelor's - % of All Degrees	1.87%	2.92%	3.48%	4.20%	4.44%	4.75%	4.50%	3.81%
Master's - Number	53	142	159	220	223	281	383	280
Master's - % of All Degrees	0.73%	1.17%	1.27%	1.71%	1.66%	1.88%	2.46%	1.70%
Doctoral - Number	3	6	8	7	4	11	6	11
Doctoral - % of All Degrees	0.55%	0.89%	1.10%	0.92%	0.58%	1.38%	0.73%	1.24%



Includes public and private higher education institutions.

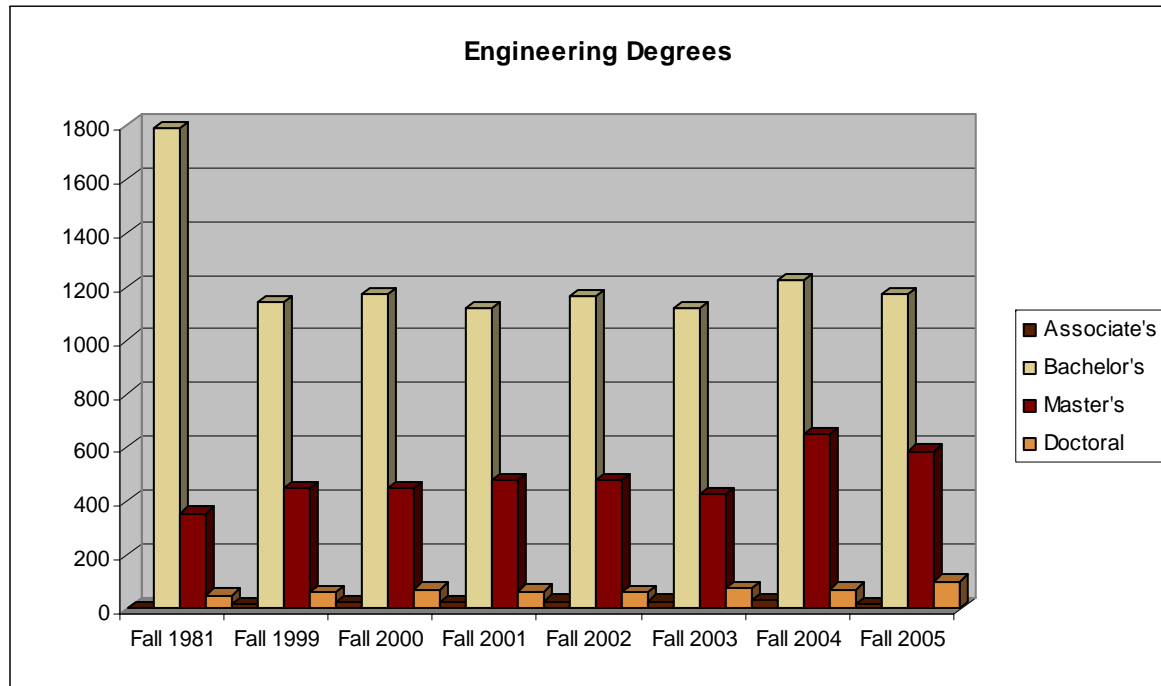
Source: Analysis of MO Department of Higher Education data by MERIC

In the Fall of 2005, a total of 1,878 post secondary degrees in engineering were conferred in Missouri, of which 62.5% were bachelor's degrees, 31.2% were master's degrees, and 5.4% were doctoral degrees. The number of bachelor's degrees in engineering has significantly decreased since the Fall of 1981, and the number of engineering bachelor's degrees as a percentage of all bachelor's degrees has also decreased significantly during that time period. This indicates that proportionally fewer graduates are obtaining bachelor's degrees in engineering in Missouri.

Since the Fall of 1981, the number of master's degrees in engineering has increased, while the number of engineering master's degrees as a percentage of all master's degrees has decreased. The number and percent of doctoral degrees in engineering have increased since Fall of 1981. This indicates that Missouri is producing fewer graduates with bachelor's degrees in engineering while producing more doctoral degrees.

Engineering Degrees Conferred by Higher Education Institutions in Missouri

Degree	Fall 1981	Fall 1999	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Associate's - Number	0	16	24	25	28	28	31	17
Associate's - % of All Degrees	0.00%	0.20%	0.30%	0.30%	0.33%	0.31%	0.32%	0.17%
Bachelor's - Number	1,791	1,142	1,172	1,120	1,166	1,119	1,225	1,173
Bachelor's - % of All Degrees	8.47%	4.12%	4.09%	3.91%	3.84%	3.56%	3.84%	3.61%
Master's - Number	357	451	447	480	481	427	649	586
Master's - % of All Degrees	4.88%	3.72%	3.58%	3.73%	3.59%	2.86%	4.17%	3.56%
Doctoral - Number	50	62	72	66	64	76	73	102
Doctoral - % of All Degrees	9.11%	9.17%	9.92%	8.72%	9.26%	9.51%	8.83%	11.54%



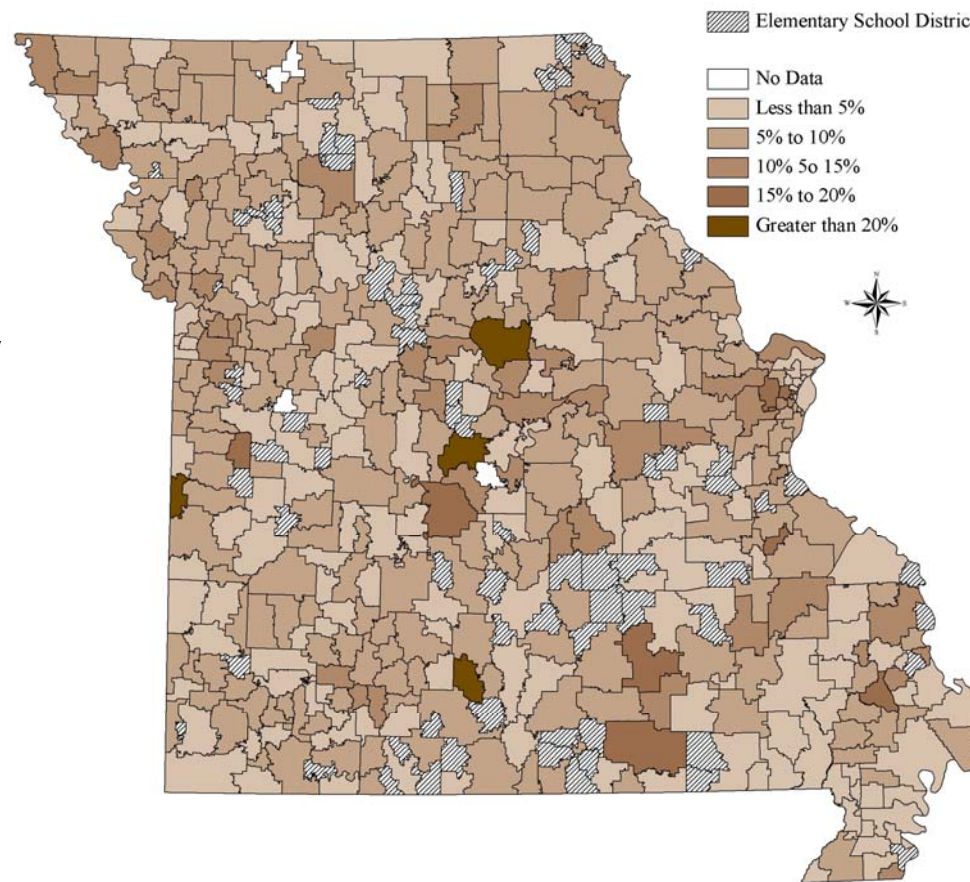
Includes public and private higher education institutions.

Source: Analysis of MO Department of Higher Education data by MERIC

On average in 2006, 6.4% of Missouri's 10th graders were proficient or advanced in science. Only four districts in Missouri had more than 20% of its students reach proficiency in science. Historically, the percentage of 10th graders that score proficient or advanced in science has increased slightly by 1.1%.

**Science Missouri Assessment Program
Average Percent of 10th Grade Students Scoring Proficient or Advanced, 2000-2006**

Source: Analysis of MO
Department of Elementary
and Secondary Education
data by MERIC



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